

Chemical Etching of CdTe and CdSe Single Crystals

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Abstract: Single crystals of CdTe and CdSe have been grown by vapor phase deposition . Crystals grown in the form of platelets were studied by X-ray diffraction Laue method . It was found that the faces of CdTe with zincblende structure are of {111} type and those of CdSe with wurtzite structure are of {1120} or {1010} types. Platelets of CdTe have one smooth face and one rough face which can be distinguished even with bear eyes. Chemical etching of CdTe revealed that the smooth face is composed of Cd atoms and the other face of Te atoms. However, chemical etching of CdSe did not show any polarity because both types of crystalline planes {1120} and {1010} are composed of both atoms. The chemical solution of HCl, Mt, Br₂ (2:3:0.3) was found to act as a suitable chemical polish for CdSe single crystals.